**Amendments to the Claims:**

**Listing of Claims:**

Claim 1 (original): A method for coding an input signal to an output signal, the method comprising:

performing a subband coding process to produce a plurality of subband samples according to the input signal, different subband samples corresponding to the input signal in different time intervals, each of the subband samples having a plurality of frequency subbands;

performing a selection process to provide a window corresponding to a predetermined block length, the window including a plurality of weighted values, the selection process including selecting subband samples from the plurality of subband samples as reference sample data, and determining the block length of the window according to an energy sum of the frequency subbands of the reference sample data in a predetermined frequency range; and

performing a transform process to multiply the plurality of frequency subbands by the plurality of weighted values of the window determined in the selection process for producing a weighted result, and to generate the output signal by a predetermined algorithm according to the weighted result.

Claim 2 (currently amended): The method of claim 1 wherein in the selection process, if the energy sum of the frequency subbands of the reference sample data in the predetermined frequency range is larger than a first threshold value, further ~~execute~~ executes a first comparing process comprising:

dividing the reference sample data into several subsample data, each subsample data having at least a subband sample; and

calculating an energy difference of the frequency subbands between two adjacent subsample data in the predetermined frequency range, if the energy difference is larger than a second threshold value, using a window of a short block length in the transform process.

Claim 3 (original): The method of claim 2 wherein the selection process further comprises:

when performing the first comparing process, if the energy difference of the frequency subbands between two adjacent subsample data in the predetermined frequency range is less than or equal to the second threshold value, performing a second comparing process and let the subsample data in the second comparing process include different subband samples from the subband samples of the subsample data in the first comparing process.

Claim 4 (original): The method of claim 3 wherein when performing the second comparing process, a different second threshold value is selected.

Claim 5 (original): The method of claim 2 wherein if the energy sum of the frequency subbands of the reference sample data in the predetermined frequency range is less than the first threshold value, then transform with a window of a long block length in the transform process.

Claim 6 (original): The method of claim 1 wherein the input signal is a pulse code modulation (PCM) signal.

Claim 7 (previously presented): The method of claim 1 wherein the output signal is a bit stream.

Claim 8 (original): The method of claim 1 wherein the predetermined algorithm is a modified discrete cosine transform (MDCT).

Claim 9 (original): A coding apparatus for coding an input signal to an output signal, the coding apparatus comprising:

a polyphase filter bank for producing a plurality of subband samples according to the input signal, different subband samples corresponding to the input signal in different time intervals, each subband sample having a plurality of frequency subbands;

a transient detector connected to the polyphase filter bank for determining a block length of a window, the window including a plurality of weighted values, the transient detector including:

a subband selector for selecting the plurality of subband samples as reference sample data;

an energy calculator connected to the subband selector for calculating an energy sum of the frequency subbands of the reference sample data;

a partition device connected to the subband selector and the energy calculator for dividing the reference sample data into several subsample data, each subsample data having at least a subband sample; and

a comparator connected to the energy calculator for comparing an output value of the energy calculator with a first threshold value, and outputting a signal representing the block length of the window according to a comparing result; and

a coding processing unit connected to the polyphase filter bank and the transient detector for multiplying the plurality of frequency subbands by the

plurality of weighted values of the window to generate a weighted result, and generating the output signal by a predetermined algorithm according to the weighted result.

Claim 10 (original): The coding apparatus of claim 9 wherein the energy calculator calculates an energy difference of the frequency subbands of two adjacent subsample data, and delivers a result to the comparator for comparing the result with a second threshold value.

Claim 11 (original): The coding apparatus of claim 10 wherein the partition device divides the reference sample data into several subsample data according to the result of the comparator, each subsample data including subband samples different from the subband samples of the preceding subsample data.

Claim 12 (original): The coding apparatus of claim 9 wherein the input signal is a pulse code modulation (PCM) signal.

Claim 13 (currently amended): The coding apparatus of claim 9 wherein the output signal is a bit stream.

Claim 14 (original): The coding apparatus of claim 9 wherein the predetermined algorithm is a modified discrete cosine transform (MDCT).

Claim 15 (original): A method for transient detection when coding an audio signal, the method comprising the following steps:

(a) producing a plurality of subband samples according to the audio signal, different subband samples corresponding to the audio signal in different time intervals, each subband sample including a plurality of frequency

subbands;

(b) selecting subband samples from the plurality of subband samples as reference sample data, and calculating an energy sum of the frequency subbands in a predetermined frequency range according to the reference sample data;

(c) if the energy sum of the frequency subbands in the predetermined frequency range is larger than a first threshold value, dividing the reference sample data into several subsample data, each subsample data having at least a subband sample; and

(d) calculating an energy difference of the frequency subbands between two adjacent subsample data in the predetermined frequency range, and according to the energy difference determining whether there is a transient of the audio signal of a time interval corresponding to the subsample data.

Claim 16 (original): The method of claim 15 wherein when determining the transient of the audio signal according to the energy difference in step (d), if the energy difference is larger than a second threshold value, determining the audio signal between the two subsample data is the transient.

Claim 17 (original): The method of claim 15 wherein in step (d), if the energy difference of the frequency subbands between two adjacent subsample data in the predetermined range is less than the second threshold value, dividing the reference sample data into several subsample data different from the subsample data in step (c) and re-executing step (d).

Claim 18 (original): The method of claim 17 wherein when re-executing step (d), a different second threshold value is selected.

Claim 19 (original): A transient detector installed in a coding apparatus for detecting whether an audio signal includes a transient, the coding apparatus comprising a polyphase filter bank for producing a plurality of subband samples according to the audio signal, different subband samples corresponding to the audio signal in different time intervals, each subband sample having a plurality of frequency subbands, the transient detector being connected to the polyphase filter bank and comprising:

a subband selector for selecting the plurality of subband samples as a reference sample data;

an energy calculator connected to the subband selector for calculating an energy sum of the frequency subbands of the reference sample data;

a partition device connected to the subband selector and the energy calculator for dividing the reference sample data into several subsample data, each subsample data having at least a subband sample; and

a comparator connected to the energy calculator for comparing an output value of the energy calculator with a first threshold value, and determining whether the audio signal includes a transient according to a comparing result.

Claim 20 (original): The transient detector of claim 19 wherein the energy calculator calculates an energy difference of the frequency subbands of two adjacent subsample data, and delivers a result to the comparator for comparing the result with a second threshold value.

Claim 21 (original): The transient detector of claim 20 wherein the partition device divides the reference sample data into several subsample data according to the comparing result of the comparator, each subsample data including subband

samples different from the subband samples of the preceding subsample data.

Claim 22 (original): The transient detector of claim 19 wherein the audio signal is a pulse code modulation (PCM) signal.